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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/789,384

02/27/2004

Klaus Goller

INFN/0061

4918

46798

7590

02/16/2006

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EXAMINER

SEFER, AHMED N

ART UNIT

PAPER NUMBER

2826

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/789,384

Applicant(s)

GOLLER, KLAUS

Examiner

A. Sefer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 12-20 is/are pending in the application.
4a) Of the above claim(s) 5-9 and 12-15 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☐ Claim(s) _____ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the Pre-Brief filed on 11/30/2005, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 4, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Pasch et al. ("Pasch") USPN 6,239,491.

Pasch discloses in fig. 3 a semiconductor device, comprising: a substrate having a process surface; a first contact 12/20 and a second contact 14/24 arranged on the substrate, a second contact surface of the second contact being at a greater distance, in a substrate-normal direction, from the substrate than a first contact surface of the first contact; a first patterned metal plane in which a first conductor 160 is disposed above the first contact in the substrate-normal direction and electrically connected to the first contact surface; and a second patterned metal plane in which a second conductor 180a/180e is disposed above the second contact in the substrate-normal direction and electrically connected to the second contact surface; wherein the second metal plane is disposed at a greater distance, in the substrate-normal direction, from the substrate than the first metal plane, wherein the second contact is electrically connected to the second conductor without an intermediate connection to any conductor of the first metal plane; and wherein the first conductor is electrically connected to another second conductor 180b in the

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second patterned metal plane which is disposed above the first conductor in the substrate-normal direction.

Regarding claim 3, Pasch discloses the first contact being connected to the conductor of the first metal plane via a first contact hole 136/138 which extends in the substrate-normal direction and is filled with an electrically conductive contact-hole filling material.

Regarding claim 4, Pasch discloses the second contact being connected to the second conductor of the second metal plane via a second contact hole 154/157, which extends in the substrate-normal direction and is filled with an electrically conductive contact-hole filling material.

Regarding claim 16, Pasch discloses the first contact being electrically connected to the first conductor and to the another second conductor without any intermediate connection to an active region.

Regarding claim 17, Pasch discloses the second contact being electrically connected to the second conductor without any intermediate connection to an active region.

4. Claims 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Pasch.

Pasch discloses in fig. 3 a semiconductor device, comprising a substrate having a process surface; a first contact 12/20 and a second contact 14/24 arranged on the substrate, a second contact surface of the second contact being at a greater distance, in a substrate normal direction from the substrate than a first contact surface of the first contact; a plurality of first conductors 160 (col. 7, lines 60-62 and claim 6) disposed in a first patterned metal plane in which one of the first conductors being disposed above the first contact in the substrate normal direction and directly connected to the first contact surface through a first contact hole 136/138 filled with

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conductive material; and a plurality of second conductors 180 disposed in a second patterned metal plane in which one of the second conductors being disposed above the second contact in the substrate-normal direction and directly connected to the second contact surface through a first contact hole 154/157 filled with conductive material; wherein the second metal plane is disposed at a greater distance, in the substrate-normal direction, from the substrate than the first metal plane; and wherein the first conductor is directly connected to another one 180b of the second conductors in the second patterned metal plane which is disposed above the first conductor in the substrate-normal direction.

Regarding claim 20, Pasch discloses the first contact being one of a source contact, and a drain contact of a MOS transistor.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasch in view of Yokoyama ("Yokoyama") US PG-Pub 2001/0029079.

Pasch discloses the device structure including the **first contact being one of a source contact, and a drain contact of a MOS transistor**, but lacks anticipation of a second contact being an emitter contact.

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Yokoyama discloses in fig. 5 a semiconductor device, comprising: a substrate having a process surface; **a second emitter contact 11 and a first base contact 6 of a bipolar transistor**, the emitter contact having a contact surface at a greater distance, in a substrate-normal direction, from the substrate than a base contact surface.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate Yokoyama teachings since that would provide the advantages of forming both MOS and bipolar transistors on the same substrate.

Conclusion

Applicant's amendment filed 4/21/2005 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (571) 272-1921

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANS
January 3, 2006

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

